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ABSTRACT

The study sought to reduce physical contact among students in a special education classroom and to reduce inappropriate contact with classroom objects or materials. Four students, aged 7-9, who exhibited disruptive classroom behavior, were the subjects. During small-group mathematics instruction, three rules of discipline were explained to the students. For each 3-minute period that a student followed the three rules, he or she received a colored chip. Chips were later counted and turned in to receive an edible reinforcer. With each passing day of week 1, the total number of disruptive behaviors gradually decreased, with the most dramatic decrease occurring between the first and second day. During a fading period, the number of chips required to earn the reinforcement was increased and the number of minutes required with no disruptive behavior was increased. The intervention was concluded to be successful and applicable to most special education classes for 6-to-14-year-olds and to most regular education classes from grades K-3. (JDD)

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Title: Reducing the Amount of Physical Contact Among Students in a Special Education Classroom

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I. Introduction

The target behavior being addressed with this behavior modification intervention was aggressive behavior. More specifically, the long term goal was to modify any type of physical contact among the students and/or contact with any nearby objects or materials. Relating this behavior to some of the literature researched, it was discovered that "performance of aggressive behaviors often results from social skill deficit." (Knapczyk, 1988. p.31) This is very true with this particular study. The greatest problem with these particular students is their inability to interact with other students-or as Knapczyk (1988) stated, their "social skills deficit".

This leads into the justification for choosing this behavior. The intervention to be discussed was chosen to try to modify the students physical contact because this behavior was the major distraction while teaching. This lack of student self-control was a constant disruption to the lessons and consistently threw the class off track. Although there were only four students who were clearly exhibiting a problem with their physical contact among each other and other objects-the behavior was affecting the entire class, and it was clearly obvious that this problem required immediate attention.

In the article entitled "Cognitive-Behavioral Group Counseling: An Introduction", there was a connection between the research and the target behavior and justification. Kahn (1988) states that "Any behavior-change technique, whether for skill acquisition, insight, or attitude change is only a 'means' to an end; a clear delineation of 'ends' must come first". (p. 345). Kahn (1988) also stated that the actual "processes" which includes the techniques and strategies of cognitive-behavioral group counseling are predicted on three

categories of goals and objectives. The first of these goals is the Individual treatment goals. This is defined as the resolution of the behavioral problem(s). The second are the Group-task goals. This is defined as the "attainment of an outcome that is common to the entire group." (p.346). Simply stated, this is an outcome of a particular activity that is specific to a certain session. Relating this concept to this particular intervention, the outcome would be the results of a math activity which is performed at the same time everyday. The last of the three are the Maintenance goals. These goals represent the condition or environment in which the group operates. From a behavioral stand point, maintenance goals describe which behaviors are acceptable or unacceptable in the group (p.346). Again with this particular intervention, the maintenance goals included minimal physical contact among other students and objects, on-task focus, and active listening by members.

II. Methods Section

Subjects

The subjects for the intervention included four students from a mixed categorical special education classroom. The students were of mixed ages and gender. There was one male student who was 7 years of age. The other three members of the study were female, one of whom was 7 years old, another was 8 years old, and the oldest of the group who was 9. The functioning levels of each of the students also varied. However, as assessed with the Peabody Individual Achievement Test, all students scored below the 25th percentile of their age group on measures of reading and math. The students Binet I.Q. scores all range between 70-85, which when researched, reveals a category of defective intellectual ability. (Flynn, 1984). Some of the common characteristics amongst the four students are failure to follow spoken directions, failure to complete work on time, a need for constant supervision, and

constant restlessness, which includes touching or physical contact of other students and materials. Students selected for participation in the study were those identified as being most disruptive in the classroom.

Setting & Materials

The study and intervention took place within an inner-city (urban) public school. The baseline and intervention itself was conducted within the subjects' classroom five days a week for 25-30 minutes each day. It was administered during their math time and the intervention itself was a math activity. The entire project lasted 5 weeks-which included 1 week of baseline, 2 weeks of strong intervention, and 2 weeks of fading. The four students who were part of the project sat at a round table in the back of the classroom. The intervention was applied everyday at the same time, which was 10:30 a.m. This was important because this is their usual math period and as previously stated, the intervention was itself a math activity/game. The materials for the intervention included paper and pencil to write down the problems for the students, markers, various colored chips (each student was given an individual color), a tin can, a timer, and clothespins, used as manipulatives for the students.

Experimental Procedures

Three phases were applied throughout the entire 5 weeks of the project. The first phase was the first week in which the baseline data was collected. Here, the number of times students had any type of inappropriate physical contact amongst each other or with the materials on the table needed for the project was recorded. The students responses were not recorded on an individual basis, but rather as a group. Therefore, the one student/one response event recording form

was used, but the responses indicate that of the entire group and not of any one student.

There was a total of 5 days for the collection of baseline data. A reliability check was conducted during baseline by a "primary observer" and a "reliability observer". The primary observer is the person who is present at all of the sessions. (Axelrod, 1983) Axelrod (1983) defines the reliability observer as the individual making the periodic checks. He also states that the term "reliability" is defined as "the degree to which the independent observers agree on the occurrence or nonoccurrence of the behavior of interest." (p.104)

In this particular study, the person applying the behavior modification intervention served as the primary observer. The regular teacher of the special education class served as the reliability observer. The reliability check was conducted at the same time by the two observers. It took place on the fourth day of the baseline collection and the responses were recorded separately and not compared until the end of the lesson.

The intervention began when the 3 rules of discipline were explained to the students. These 3 rules were to hopefully decrease the amount of physical contact the group had been exhibiting and bring about a new desired behavior. The 3 rules that were pre-stated to the group were: 1) sitting in one's own designated spot; 2) eyes on teacher; and 3) <u>hand to self!</u>

After students had a clear understanding of these rules and what was expected of them-they were each assigned to a specific color chip. (The four colors used in the intervention were blue, red, green and yellow). Every 3 minutes the bell from a small timer informed the teacher to

check to see if everyone in the group had been following the 3 prestated rules. If the students had followed the 3 rules, and had not touched any of their peers or materials that were near them, then their specific color chip would be dropped into a large tin can. Each chip was done one at a time so that the students could see the chip-recognize it as their own-then hear it actually being dropped into the can. If the students did not adhere to the rules and exhibited a great amount of physical contact, then at the sound of the bell, their colored chip was simply "skipped over". At the end of the 30 minutes lesson, the chips were counted to see if a reinforcer was earned. A minimum of 4 out of 10 (sometimes 9 depending on time) chips had to be earned by each student in order to receive the reinforcement. The reinforcement for earning the chips was an edible (specifically, a piece of candy).

The lesson that was used each day with the intervention was a math lesson. More specifically, it was a subtraction lesson in which students were required to use clothespins as manipulatives. The students were divided into two groups (or "teams") and given a team name. The instructor would write down a subtraction problem and the teams took turns answering. One member would count out the total number of clothespins that were needed to solve the problem. For example, if the problem was 12-4, one student would count out 12 clothespins, one at a time. The second team member would then take away or subtract 4 of the clothespins. Together, they would retrieve an answer and repeat the problem by saying "12-4=8". The team was given 3 points if they got the correct answer on the first try, 2 points on the second try, 1 point on the third. The strongest part of the intervention was that the opposing team had to wait for their turn forcing them to pay attention to the problem being solved at the time and strengthening their self-control-which is the ultimate goal of the intervention.

Fading

As previously stated, the intervention was strongly enforced for a solid two weeks. There were positive results due to the intervention-therefore the process of fading began with week 3. The intervention was modified by increasing the minutes on the timer from 3 to 5 and increasing the number of chips that were required in order to earn the reinforcement. Increasing the minutes from 3 to 5 made it more difficult for the students to behave appropriately for a longer period of time. The chances of receiving a colored chip are greater after only 3 minutes than they are after 5. Simply stated, by increasing the minutes, it made the students behave for a longer period of time. This, of course, meant it was more difficult for them to earn a chip because they now had more time to "touch".

Also included in the fading period was increasing the number of colored chips required to earn a reinforcer. Whereas during the strong intervention, a minimum of 4 chips were required, now during the fading phase, a minimum of 5 chips were required to earn the reinforcement. Therefore, in a 30 minute period, students had to receive 5 out of 6 colored chips, which again increased the challenge of earning the reinforcement.

Design

The graphing of the baseline intervention, and fading resulted in an AB Design. This AB Design is a simple graphing of the results of the intervention which illustrate how the behavior was modified from the baseline, then to the intervention, and finally to the third phase of fading.

III. Results & Discussion

During the collection of baseline data, students were not informed that their behavior was being recorded. Therefore, as the design illustrates, the number of recorded responses which includes any type of physical contact, was very high. The most interesting factor with the collection of the baseline data is that the number of recorded responses increased with each day. For example, the number of recorded responses for any type of physical contact on the first day of baseline was 16. Day 2 it increased to 18. Day 3 it increased another 2 to 20. Day 4 there were 21 recorded responses and day 4 of baseline reached a high of 32 recorded responses.

When the intervention had been initiated, there was a slight decrease between the last day of baseline collection and the first day of intervention. However, with each passing day of week 1, the total number of recorded responses had gradually decreased. The most interesting factor during week 1 of the intervention was the dramatic decrease in recorded responses between the first and second day. On day 1, there was still a relatively high number of responses-a total number of 25. On day 2, however, the number of responses had decreased to 13. This was almost half of the previous day! The drop of responses would indicate that the students did not fully grasp the concept of the reinforcement until they were actually able to see what it took to earn the reinforcer-in this case a piece of candy. On day 1, only one student received 4 colored chips-enough to be rewarded. Although it was only one student-it was a positive result because it allowed the other participants to see "what it took". Day 2 there were three recipients of the reinforcer. The number of students earning the reward varied during the intervention, but what is most important to note is the fact that the <u>majority</u> of the time, all 4 participants earned the reward and

even more importantly, the overall amount of physical contact had significantly decreased with each day of intervention.

There were two reliability checks conducted. The first was during baseline, the second during intervention. The reliability check was conducted on day 4 during baseline. The total number of recorded responses by the instructor or the primary observer was 26. The regular classroom teacher or the reliability observer also counting the responses without the students knowledge, recorded a total number of 19 for physical contact. Therefore, a reliability of 90.4% was calculated depicting a need for modification.

During the intervention, a reliability check was again conducted on the fourth day. The primary observer recorded a total number of 12 and the reliability observer recorded 14 as the total number of responses. The actual reliability calculation proved to be 85.7%, which still proved "reliable" that the two educators were observing relatively the same amount of inappropriate physical contact.

In only one occasion during the intervention was there an increase in the amount of inappropriate behavior. This increase occurred during the second week of the intervention-and the reason for this increase is best explained by the fact that their usual morning was disrupted with an award assembly. Although the intervention still took place at the same time of morning and for the same length of time, the assembly that was to follow had preoccupied their minds and had caused an increase in the amount of inappropriate behavior. Research indicates that any type of "out of the ordinary" event which would naturally increase the anxiety level of the students, often leads to the "out of the ordinary" actions of the students-especially those in a special ed. setting. (Forman & O'Malley, 1984) These actions by the students which result from their anxieties usually tend to be negative actions-or

those which are classified as inappropriate behavior. This helps to explain the sudden increase in recorded responses of physical contact that occurred during the second week of the intervention.

In the beginning of the fading period, there was a slight increase in the amount of recorded responses. Then there was a slight decrease in the amount of physical contact. However, the decrease remained steady for three consecutive days. On day 7, there was again another small increase in the amount of students "touching" the objects. The final three days of the fading phase was very positive, resulting in a natural decrease of the behavior. The lowest recorded amount of responses during the fading phase was 3. This was extremely successful considering that the high was 32 during baseline.

Relating this information that has been addressed within the report to some of the literature that has been researched on this specific topic of behavior modification, it was discovered that to find the true definition of "disruptive behavior" is a difficult task. Disruptive behavior, like so many other social concepts is "in the eye of the beholder." (Book & Skeen, 1987, p.399) It is true that students regarded as disruptive by one teacher may not by another (1987). However, in this particular case, the physical contact these four students had been exhibiting was identified as being "disruptive" to the instructor and an intervention was administered.

Other researchers state that experienced teachers frequently report that "chronically disruptive students will sometimes naturally group themselves with other students who display disruptive behaviors" (Stainback, 1986, p.39) This research justifies the rationale for choosing the four participants who were part of this project. The four participants are members of a mixed categorical special ed.

class and tend to spend a great deal of their free time together. They also share many of the same characteristics- both intellectually and socially, and this aggressive behavior of physical contact is one common feature of the four.

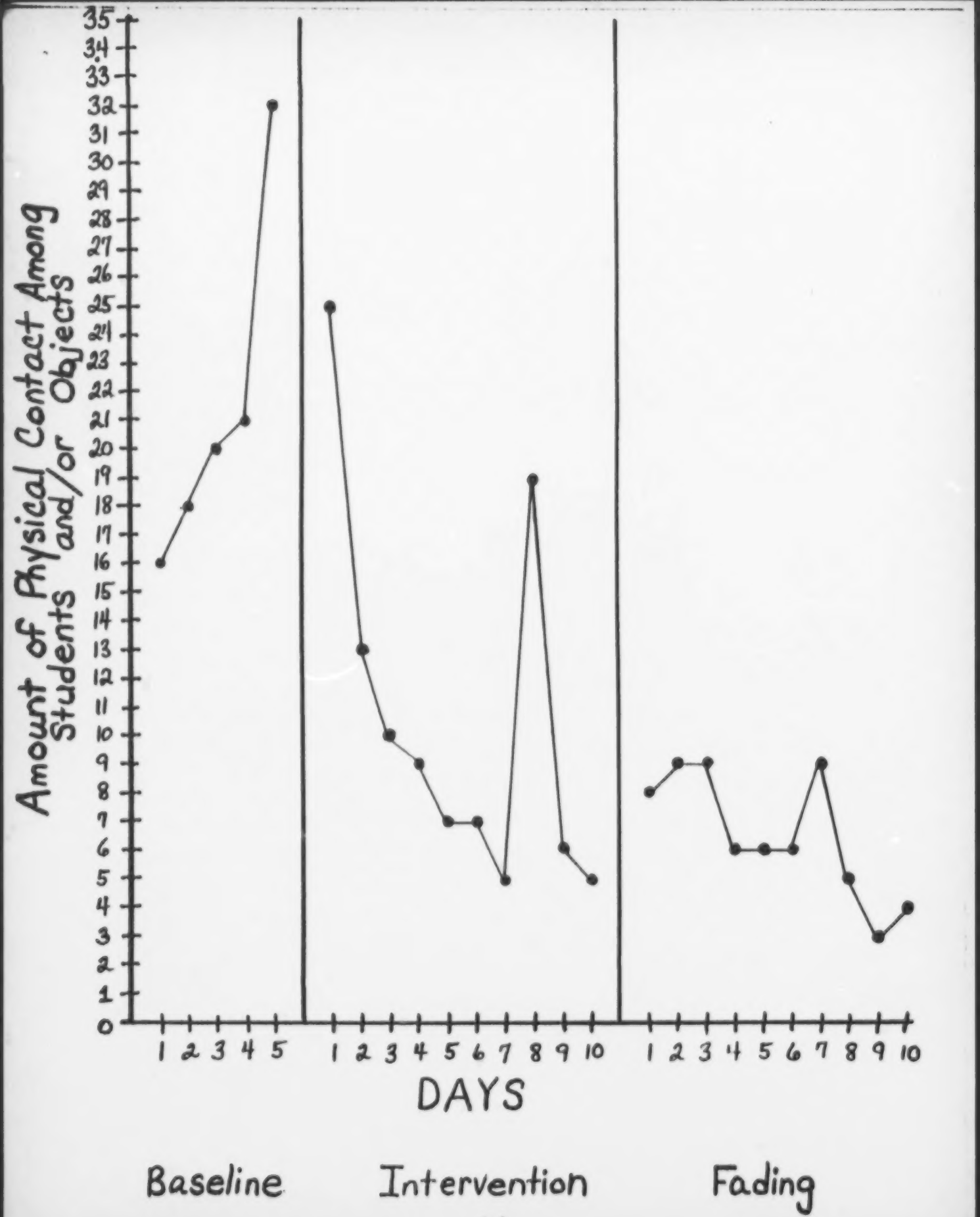
Relating some of the actual data results to some of the research, it was discovered that students' peers have a tremendous influence on the social behavior of others in the class. (Stainback, 1986) This is directly related to the fact that on the first day of the intervention, the number of recorded responses was still a relatively high amount. Only one student had received the reinforcer by receiving 4 of his specific colored chips. However, on Day 2, three out of four participants had received the reinforcer. Researchers tell us that this occurred because of the other students. Students had seen what was necessary to receive the piece of candy by the one individual who had earned it on the first day. Research indicates that peers can serve as models and even act as effective agents for modifying the behavior of classmates. (Stainback, 1986).

This was a very successful intervention and the results on the AB Design would indicate this. Analyzing the results of the project would indicate that this intervention would be applicable and beneficial to most special education classes for students ranging from 6 to 14 years old and even to most regular education classes, grades K to 3. The most beneficial reason for this project is that the procedure could be used to modify <u>any</u> type of aggressive behavior! In this case, it was successful in modifying the inappropriate behavior of physical contact. However, any classroom teacher, whether special education or regular education could use these same procedures to modify other aggressive behaviors such as call-outs, out-of-seat, or even self-abuse. Another point of interest is that this intervention would also be beneficial on a one-to-

one basis or to a small group of individuals, as was proven in this case study.

If the project were to be administered again to a new group of students the only refinement that would be considered to be made would be to change the reinforcer during the fading phase, from a extrinsic reinforcer which in this case was an edible, to a more intrinsic reinforcer-such as something that is tangible. The rationale for this is that the students acted extremely well to the fading phase of the project when they were now required to earn more colored chips in a longer length of time. However, it would be interesting to see if the subjects would still work extra hard to earn a reinforcer that is not so extrinsic. This would have been an "extra step" to help fade the intervention, and with this particular study, it would have been applicable.

In final conclusion, the findings of this case study provide some initial evidence for how grouping practices to modify behavior can be employed most effectively in schools. Based on the findings, aggressive students (of any sort) are grouped together in order to modify or reach a lower rate of the disruptive behavior. Because the data indicates a high of 32 recorded responses of negative behavior during baseline and reaches a low of 3 during the fading period, it can again be stated that the intervention was a success. Most importantly, the participants of the study have continued with a low rate of the inappropriate behavior . . . and this, of course, is the ultimate goal!


Amount of Physical Contact Among Students and/or Objects
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35
1 2 3 4 5
1 2 3 4 5 6 7 8 9 10
1 2 3 4 5 6 7 8 9 10
DAYS
Baseline
Intervention
Fading

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